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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,436	10/15/2003	Yo-Han Ahn	SEC.1087	3937

20987 7590 11/09/2004

VOLENTINE FRANCOS, & WHITT PLLC
ONE FREEDOM SQUARE
11951 FREEDOM DRIVE SUITE 1260
RESTON, VA 20190

EXAMINER	
TRAN, KHOI H	

ART UNIT	PAPER NUMBER
3651	

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/684,436	AHN ET AL.	
	Examiner	Art Unit	
	Khoi H Tran	3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

KHOI H. TRAN
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 5, 6, 9-15, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ushikawa et al. 5,536,320.

Ushikawa '320 discloses an apparatus and method for processing wafer per claimed invention. The apparatus comprises a container 32 or 22 for housing plurality of wafers (Figure 2). The container 22 is a front opening unified pod. The apparatus comprises a wafer processing chamber 6 (Figure 1). The apparatus comprises a wafer transferring chamber connects to the processing chamber. The transfer chamber comprises a load port that configures to support the container outside said transfer

chamber (Figure 2). The transfer chamber includes a robot arm 24B for moving wafers, one at a time, back and forth between the container and the processing chamber. Once all processed wafers are loaded back into the container, from the process chamber, said container will be replace by another container having un-processed wafers contained therein. The apparatus comprises a contamination controlling system. The contamination system comprises a gas inlet port 42 (left side of Figure 1) connected to the transfer chamber for the introduction of filtered gas. The contamination system comprises a gas re-circulation tube 42 (right side of Figure 1) extended outside of said transfer chamber for the circulation of purged gas back into said chamber. The contamination system comprises a fan 40 and a filter 46. The contamination system comprises a nitrogen gas supply line 42A connects to the gas inlet port for the introduction of the inert gas into the system. The contamination system comprises a flow controller 62 for controlling the flow of the gas.

3. Claims 1-3, 5, 6, 9, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitano et al. 5,876,280.

Kitano '280 discloses a wafer processing apparatus per claimed invention. The apparatus comprises a container "CR" for housing plurality of wafers (Figures 3 and 6). The container is a front opening unified pod. The apparatus comprises wafer processing chambers G1-G4 (Figure 3). The apparatus comprises a wafer transferring chamber connects to the processing chamber. The transfer chamber comprises a load port that configures to support the container outside said transfer chamber (Figures 3 and 6). The transfer chamber includes a robot arm 22 for moving wafers, one at a time,

between the container and the processing chamber. The apparatus comprises a contamination controlling system. The contamination system comprises a gas inlet port 10b connected to the transfer chamber for the introduction of filtered gas. The contamination system comprises a gas re-circulation tube 40/44 extended outside of said transfer chamber for the circulation of gas back into said chamber. The contamination system comprises a fan 16b and a filter 31. The contamination system comprises a temperature and humidity sensor 50 for controlling the quality of introduced gas into the system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikawa et al. 5,536,320.

Ushikawa '320 discloses all elements per claimed invention as explained in paragraph 2 above. However, it is silent as to the specifics of providing laminar airflow within the substrate transfer chamber. Nevertheless, It would have been commonly obvious for a person with ordinary skill in the art, at the time the invention was made, to have provided laminar airflow within Ushikawa '320 transfer chamber because it provides a less turbulent environment for any dust particles that are still left in the

transfer chamber. The laminar airflow prevents less dust particles from adhering to the wafers.

6. Claims 7, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikawa et al. 5,536,320 in view of Kitano et al. 5,876,280.

Ushikawa '320 discloses all elements per claimed invention as explained in paragraph 2 above. However, it is silent as to the specifics of providing a temperature/humidity sensor for monitoring and controlling the air quality within the transfer chamber.

Kitano '280 teaches that temperature/humidity sensor provides constant monitoring and controlling of the air quality within the transfer chamber.

It would have been obvious for a person with ordinary skill in the art, at the time the invention was made, to have provided to Ushikawa '320 system with a temperature/humidity sensor because it provides constant monitoring and controlling of the air quality within the transfer chamber, as taught by Kitano '280.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitano et al. 5,876,280.

Kitano '280 discloses all elements per claimed invention as explained in paragraph 3 above. However, it is silent as to the specifics of providing laminar airflow within the substrate transfer chamber. Nevertheless, It would have been commonly obvious for a person with ordinary skill in the art, at the time the invention was made, to have provided laminar airflow within Kitano '280 transfer chamber because it provides a

less turbulent environment for any dust particles that are still left in the transfer chamber. The laminar airflow prevents less dust particles from adhering to the wafers.

8. Claims 1-6, 9-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saeki et al. 6,802,934 in view of Ushikawa et al. 5,536,320.

Saeki '934 discloses an apparatus and method for processing wafer per claimed invention. The apparatus comprises a container 106 for housing plurality of wafers (Figure 1). The container 106 is a front opening unified pod. The apparatus comprises wafer processing chambers 158/160/162/164 (Figure 1). The apparatus comprises loadlock chambers 130 and 132. The apparatus comprises wafer transferring chamber 122 that functionally connects to the processing chambers via the loadlock chambers. The transfer chamber 122 comprises a load port that configures to support the container outside said transfer chamber (Figures 1 and 2). The transfer chamber includes a robot arm 124 for moving wafers, one at a time, back and forth between the container 106 and the processing chambers. Once all processed wafers are loaded back into the container, from the process chambers, said container will be replace by another container having un-processed wafers contained therein. The apparatus comprises a contamination controlling system for circulating inert or nitrogen gas within the transfer chamber 122. However, Saeki is silent as to the specifics of the inert/nitrogen recirculation system for the transfer chamber 122.

Ushikawa '320, as described in paragraph 2 above, discloses a nitrogen/fresh air recirculation system for a transfer chamber.

It would have been obvious for a person with ordinary skill in the art, at the time the invention was made, to have provided to Saeki '934 contamination control system with the nitrogen/fresh air recirculation system, per Ushikawa '320, because it facilitates the circulation of fresh air and nitrogen within the transfer chamber.

Conclusion

9. Additional references made of record and not relied upon are considered to be of interest to applicant's disclosure: see attached USPTO Form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khoi H Tran whose telephone number is (703) 308-1113. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (703) 308-1113. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khoi H Tran
Primary Examiner
Art Unit 3651

KHT
11/04/2004